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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,638	02/12/2001	Suraj C. Kothari	900.174US1	8399
21186	7590	08/29/2005	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402-0938			DAS, CHAMELI	
			ART UNIT	PAPER NUMBER
			2192	

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/781,638

Applicant(s)

KOTHARI ET AL.

Examiner

CHAMELI C. DAS

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,6-10,14-18,21,24,27-31,35-39,42-63,65-67,69-77,79-90,93 and 94 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/12/01 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Continuation of Disposition of Claims: Claims pending in the application are 3,6-10,14-18,21,24,27-31,35-39,42-63,65-67,69-77,79-90,93 and 94.

1. This action is in response to the RCE filed on 7/22/05.
2. Claims 1-2, 11, 20, 22-23, 32, 6468, 78, and 91 have been amended.
3. Claims 3, 6-10, 14-18, 21, 24, 27-31, 35-39, 42-63, 65-67, 69-77, 79-90, 93-94 have been canceled.
4. Claims 1-2, 4-5, 11-13, 19-20, 22-23, 25-26, 32-34, 40-41, 64, 68, 78 and 91-92 have been rejected.

Drawings

5. In Drawings Figure 1 should be labeled as -- PRIOR ART --.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1, 11, 22, 32, and 64 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter. The language of claims raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C 101. The steps of claims of 1, 11 and 64 do not rely on any hardware that would provide tangible results.

In claims 22 and 32 the language "a signal-bearing media comprising computer-readable instructions" does not provide a definite tangible result.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1 and 22 are rejected under 35 U.S.C 112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 22 recite the limitation "BLAST". It needs to be spelled out.

The Examiner interprets the limitation as " Block-Level Abstract Syntax Tree".

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-2, 4-5, 11-13, 19-20, 22-23, 25-26, 32-34, 40-41, 64, 68, 78 and 91-92 rejected under 35 U.S.C. 103(a) as being unpatentable over Clark, US 5,297,150 and further in view of Dollin et al (US 6,594,783) and Jacobson (US 5,317,511)

As per claims 1, 22 Clark discloses:

- analyzing source code to determine a program slice (Clark, col 6 lines 47-67)

- ***creating a program slice diagram that provides a graphical representation of the program slice*** (Clark, col 5 lines 9-16, col 5 lines 33-36)
- ***displaying the program slice program*** (Clark, col 5 lines 9-16, col 6 lines 38-45)
- displaying a code browser operable to display a subset of the source code (col 5, lines 7-16), where the “program segments” are the subset of the source code
- node of one or more nodes (Abstract).

Clark discloses displaying program slice. Clark does not specifically disclose “abstract syntax tree”. However, Dollin (US 6,594,783) discloses displaying abstract syntax tree viewer having one or more control blocks (Dollin, abstract, col 3 lines 3-6). The modification would be obvious because one of the ordinary skill in the art would be motivated to provide a improved code sequence verification through the use of an abstract syntax tree.

Neither Clark nor Dollin specifically disclose “cross-reference between the program, control block and subset of the code”; and indicating the cross-reference in the code browser, the syntax viewer and the program slice program. However, ***Jacobson*** (US 5,317,511) discloses the cross-reference between program, control block and subset of the code; and indicating the cross reference in the code browser, the syntax viewer and the program slice program (Abstract, Fig 1, col 7 lines 10-36). The modification would be obvious because it is easier for a computer programmer to view and understand the source code and the user can look up the definition of, or

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references to, a name without typing the name and as a result, lookups are rapid and accurate.

As per claims 2, 23, Clark discloses:

- wherein the program slice program further comprises a directed graph comprising a plurality of nodes and arcs, wherein the arcs represent data flow (Abstract, 1-10, col 4 lines 20-25).

As per claim 4, 25, Clark discloses:

- wherein the nodes represent source code statements within a selected subroutine (Abstract, col 6 lines 46-52).

As per claims 5, 26, Clark discloses:

- wherein the node represent variable... subroutine (col 7 lines 10-15).

As per claims 11, 32, Clark discloses:

- ***analyzing source code to determine a program slice using the subset of nodes*** (Clark, col 6 lines 47-67) (Clark, col 5 lines 9-16, col 5 lines 33-36) (Clark, col 5 lines 9-16, col 6 lines 38-45) (col 5, lines 7-16), where the “program segments” are the subset of the source code, node of one or more nodes (Abstract)

creating a program slice diagram that provides a graphical representation of the program slice and displaying the program slice diagram (Clark, col 5 lines 9-16, col 6 lines 38-45)

- displaying a template viewer and the template viewer operable to receive information (Clark, abstract, col 5 lines 25-40), where the “rules/knowledge base software visualization” is the “template viewer”

Clark does not specifically disclose semantic information and performing semantic abstraction to group a subset of nodes together based on the semantic information. However, Dollin discloses semantic information and semantic abstraction to group a subset of nodes together based on the semantic information (col 3, lines 55-67, col 4 lines 1-11). The modification would be obvious because one of the ordinary skill in the art would be motivated to provide a method that allow form improved code analysis through the use of an abstract syntax tree and semantic operation.

As per claims 12, 13, 33, 34 Clark discloses identifying a logical category of computations (Clark, col 5 lines 25-35) and displaying the logical category of computations as claimed (col 6 lines 5-10, col 6 lines 33-45).

Clark does not disclose cross-reference to a display of the source code. However, Jacobson discloses cross-reference to a display of the source code (Abstract, Fig 1, col 7 lines 10-36). The modification would be obvious because it is easier for a computer programmer to view and understand the source code and the user can look up the definition of, or references to, a name without typing the name and as a result, lookups are rapid and accurate.

Regarding claims 19, 40 (Clark, col 7 lines 10-15), semantic information

Regarding claims 20, 41, Clark discloses performing event abstraction ... together nodes (Clark, Fig 3, item 56) and logical event (Clark, col 5 lines 26-35).

Clark does not specifically disclose semantic information. However, Dollin discloses semantic information and semantic abstraction to group a subset of nodes together based on the semantic information (col 3, lines 55-67, col 4 lines 1-11). The modification would be obvious because one of the ordinary skill in the art would be motivated to provide a method that allow for improved code analysis through the use of an abstract syntax tree and semantic operation.

Regarding claim 64 (Clark, col 6 lines 33-50, col 5 lines 32-37, col 4 lines 57-64).

Clark discloses displaying program slice. Clark does not specifically disclose "abstract syntax tree". However, Dollin (US 6,594,783) discloses displaying an abstract syntax tree viewer having one or more control blocks (Dollin, abstract, col 3 lines 3-6). The modification would be obvious because one of the ordinary skill in the art would be motivated to provide a improved code sequence verification through the use of an abstract syntax tree.

Neither Clark nor Dollin specifically disclose "cross-reference between the program, control block and subset of the code"; and indicating the cross reference in the code browser, the syntax viewer and the program slice program. However, Jacobson (US 5,317,511) discloses the cross-reference between program, control block and subset of the code; and indicating the cross reference in the code browser, the syntax viewer and the program slice program (Abstract, Fig 1, col 7 lines 10-36). The modification would be obvious because it is easier for a computer programmer to view and understand the source code and the user can look up the definition of, or

references to, a name without typing the name and as a result, lookups are rapid and accurate.

Regarding claim 68, (Jacobson, col 38-50).

Regarding claim 78, displays the directed graph, wherein the nodes are positioned according to a data-flow pattern (Clark, Fig 7, Fig 2). Clark does not specifically disclose that the diagram is displayed in upside-down-tree layout. However official notice is taken for displaying upside-down-tree. The modification would be obvious because it may be easier for the data analyst to visually identify the base categories.

Regarding claim 91 (Clark, col 5 lines 25-35, col 6 lines 5-10, col 6 lines 33-45).

Regarding claim 92, (Clark, col 5 lines 25-35), (Dollin, abstract).

12. The prior art made or record and not relied upon is considered pertinent to applicant's disclosure.

TITLE: Component-based source code generator, US 6742175 B1

TITLE: Generating a natural language specification of a computer program by generating an intermediate expression table based on a flow chart from analyzed syntax of the program, US 6212677 B1

TITLE: Apparatus and accompanying methods for visualizing clusters of data and hierarchical cluster classifications, US 6742003 B2 (tree up side down)

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TITLE: Method and system for computing semantic logical forms from syntax trees, US 5966686 A

TITLE: Automatically-maintained customizable user interfaces, US 6518979 B1

TITLE: Method and apparatus for translating source code from one high-level computer language to another, US 5768564 A

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chameli Das whose telephone number is 571-272-3696.

The examiner can normally be reached on Monday-Friday from 7:00 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Tuan Dam can be reached at 571-272-3695. The fax number for this group is (571) 273-8300.

An inquiry of general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 571-272-2100.

Chameli C-D on
CHAMELI C. DAS
PRIMARY EXAMINER
8/25/05